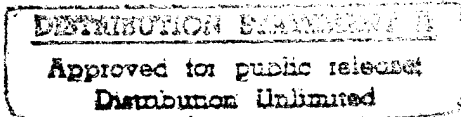


NAVAL WAR COLLEGE  
NEWPORT, R. I.

**SYNCHRONIZATION IN JOINT OPERATIONAL WARFARE**

by



**Stephen P. Taylor**

**Lieutenant Colonel  
United States Marine Corps**

**A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.**

**The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy**

Signature: 

19960815 125

14 June 1996

**Paper directed by  
G. W. Jackson, Captain, United States Navy  
Chairman, Department of Joint Military Operations**

 96 May 17  
Captain Charles C. Beck, USCG Date

**DTIC QUALITY INSPECTED 1**

## REPORT DOCUMENTATION PAGE

1. Report Security Classification: UNCLASSIFIED			
2. Security Classification Authority:			
3. Declassification/Downgrading Schedule:			
4. Distribution/Availability of Report: DISTRIBUTION STATEMENT A: APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.			
5. Name of Performing Organization: Joint Military Operations Department			
6. Office Symbol: 1C		7. Address: Naval War College, 686 Cushing Rd., Newport, RI 02841-1207	
8. Title (Include Security Classification): SYNCHRONIZATION IN JOINT OPERATIONAL WARFARE (UNCLASSIFIED)			
9. Personal Author(s): Stephen P. Taylor, Lieutenant Colonel, United States Marine Corps			
10. Type of Report: Final		11. Date of Report: 14 June 1996	
12. Page Count: 25			
13. Supplementary Notation: A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Joint Military Operations Department. The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.			
14. Ten key words that relate to your paper: synchronization joint operation operational art Norway Germany invasion Desert Storm			
<p>15. Abstract: Synchronization offers the Joint Force Commander (JFC) the ability to add synergism to his unified effort to achieve desired results. Today, synchronization of joint forces takes on great importance. Synchronization is addressed throughout Joint Doctrine and to further define it deprives the JFC of initiative and creativity at the operational level. As the link between the strategic and operational levels of war the JFC must synchronize not only his assigned forces at the operational level, but also the total effort of his forces with political, economic, and social actions at the strategic level.</p> <p>To illustrate the concepts and importance of synchronization, this essay first analyzes the role of synchronization in the German invasion of Norway; second, investigates the adequacy of current doctrine in its treatment of synchronization, focusing on Joint Publication 3-0, <u>Doctrine for Joint Operations</u> (JP 3-0) and Army Field Manual 100-5 <u>Operations</u>, (FM 100-5); third, addresses the vertical and horizontal components of synchronization and conclude with an example of modern application of synchronization in the coalition defeat of Iraq in 1991.</p>			
16. Distribution / Availability of Abstract: UNLIMITED	Unclassified X	Same As Rpt	DTIC Users
18. Abstract Security Classification: UNCLASSIFIED			
19. Name of Responsible Individual: Chairman, Joint Military Operations Department			
20. Telephone: (401) 841- <del>6461</del> 6461		21. Office Symbol: 1C	

## **Abstract of**

### ***SYNCHRONIZATION IN JOINT OPERATIONAL WARFARE***

Synchronization offers the Joint Force Commander (JFC) the ability to add synergism to his unified effort to achieve desired results. Today, synchronization of joint forces takes on great importance. Synchronization is addressed throughout Joint Doctrine and to further define it deprives the JFC of initiative and creativity at the operational level. As the link between the strategic and operational levels of war the JFC must synchronize not only his assigned forces at the operational level, but also the total effort of his forces with political, economic, and social actions at the strategic level.

To illustrate the concepts and importance of synchronization, this essay first analyzes the role of synchronization in the German invasion of Norway; second, investigates the adequacy of current doctrine in its treatment of synchronization, focusing on Joint Publication 3-0, Doctrine for Joint Operations (JP 3-0) and Army Field Manual 100-5 Operations, (FM 100-5); third, addresses the vertical and horizontal components of synchronization and concludes with an example of modern application of synchronization in the coalition defeat of Iraq in 1991.

## Table of Contents

Abstract.....	ii
Table of Contents .....	iii
Introduction .....	1
The German Invasion of Norway, April 1940:	
A Case Study in Operational Synchronization .....	1
Weseruebung: The Final Plan .....	3
Command Organization: Group XXI.....	3
Navy .....	4
Ground Forces .....	5
Air Forces.....	5
Political Planning.....	5
The Result.....	6
Operational Synchronization in Doctrine .....	7
Discussion: JP 3-0.....	9
Discussion: FM 100-5.....	11
The Horizontal Quest for Synergy.....	12
The Vertical Link to Strategy .....	13
Operation Desert Storm:	
Modern Application of Joint Operational Synchronization.....	14
Conclusion .....	17
End Notes .....	18
Figure 1. Map of Norway Invasion.....	20
Figure 2. Graphic Depiction of Horizontal and Vertical Components of Synchronization .....	21
Bibliography.....	22

## ***Introduction***

Synchronization offers the Joint Force Commander (JFC) the ability to add synergism, that is, combat power greater than the sum of its parts, to his unified effort to achieve desired results. It provides order and purpose to joint force operations and is the foundation on which to construct the operational design. Today, synchronization has taken on great importance. It permeates and underpins planning and execution of joint operations. Synchronization is addressed throughout Joint Doctrine and to further define it would, in effect, remove the "art" from operational art and replace it with science which, while perhaps desirable at the tactical level, deprives the JFC of initiative and creativity at the operational level. As the link between the strategic and operational levels of war the JFC must synchronize not only his assigned forces at the operational level, but also the total effort of his forces with political, economic, and social actions at the strategic level.

To illustrate the concepts and importance of synchronization, this essay will first analyze the role of synchronization in the German invasion of Norway; second, investigate the adequacy of current doctrine in its treatment of synchronization, focusing on Joint Publication 3-0, Doctrine for Joint Operations (JP 3-0) and Army Field Manual 100-5 Operations, (FM 100-5); third, address the vertical and horizontal components of synchronization and conclude with an example of modern application of synchronization in the coalition defeat of Iraq in 1991.

### ***The German Invasion of Norway, April 1940: A Case Study in Operational Synchronization*** (See Figure 1. Map of Norway Invasion)

The German invasion of Norway in 1940 marked a major transition in modern warfare. It was the first occurrence of combined land, air and sea operations -- the precursor of joint operations as we know them today -- and it proved that air power could be used to neutralize superior sea power.<sup>1</sup> The German invasion is worthy of analysis because, in addition to requiring detailed synchronization at the

operational level, it was also linked to Germany's strategic aims and was influenced by political and economic considerations. To a large degree, Germany's success in the invasion of Norway can be viewed as a successful synchronization of air, land and sea forces at the operational level to achieve their objective. The planning and execution stage of the operation reveals both the complexity and the challenge of synchronizing modern joint forces and the advantage to be gained through effective synchronization.

Late in 1939, Germany was faced with a mounting threat to its supply of raw materials. Especially vulnerable was its access to Swedish iron ore, which was transported from ore fields in northern Sweden to the Norwegian port of Narvik, then to German ports. Hitler and the Allies recognized the strategic importance of Norway as a transshipment point for Swedish ore, for the access it offered to the North Atlantic, Baltic and North Sea, as well as its potential to provide staging areas for air forces to operate against the British Isles. Whichever side controlled Norway held a significant advantage over the other. The *Altmark* incident, in which British sailors boarded the German auxiliary ship *Altmark* in Norwegian waters to free British prisoners of war, convinced Hitler that Norway could not remain neutral, and that he must occupy it before the Allies did.<sup>2</sup>

The plan to invade Norway faced several obstacles. First, having met with success in Poland, Hitler had already determined that Germany would open a campaign in western Europe. Military planners realized that this would be an enormous undertaking which would require nearly all the resources available to them. They were concerned that an invasion of Norway would detract from what they believed to be the main focus in western Europe. Second, an invasion of Norway would involve power projection of a distinctly naval character. Germany's navy was far inferior to the British Navy, and the invasion would place the German fleet at great risk. Third, the geography, terrain and environmental

conditions in Norway were extremely difficult; operations there could prove disastrous if not planned and executed properly. A small planning cell was established and, in January 1940, the invasion of Norway was assigned the code name "Weseruebung."<sup>3</sup>

### ***Weseruebung: The Final Plan***

In developing the operational plan for Weseruebung, the German staff noted that Norway's population was concentrated in several geographically isolated cities along the coast. An operation to simultaneously occupy the populated areas around Oslo, Stavanger, Bergen and Trondheim as well as the strategic port of Narvik would effectively control the country and neutralize important seaports and airfields as well as the majority of Norwegian armed forces.<sup>4</sup> While the Norwegian military had suffered from years of neglect and posed little credible threat to the German force, the British Navy had the capability to interdict the German invasion and logistics force at sea.<sup>5</sup> This dictated a German plan which depended on surprise, speed and accurate timing.<sup>6</sup> The plan evolved into a combined air and seaborne assault of key population centers in Norway.

### ***Command Organization: Group XXI***

Weseruebung depended on all three German services for successful execution. Doctrinal command relationships for this type of operation did not exist and were the subject of much debate. Initially, all forces assigned to Weseruebung were to have been under a unified commander. Hitler had personally selected General der Infanterie, Nikolaus von Falkenhorst, Commanding General, XXI Corps, to plan and command the operation. Falkenhorst was directly subordinate to Hitler.<sup>7</sup> However, the Luftwaffe protested being under the control of Group XXI. Hitler, seeking to avoid inter-service conflict, placed air forces supporting Weseruebung under the control of X<sup>th</sup> Air Corps, which would receive requests from Group XXI and allocate air forces as necessary.<sup>8</sup> Command of naval forces fell to Naval Group

West and Naval Group East.<sup>9</sup> Operations in Denmark came under XXXI Corps, which was subordinate to Group XXI until Weseruebung (W) Day plus three.<sup>10</sup> As a result, Falkenhorst commanded only the ground forces; of the commanders, he became "first among equals."<sup>11</sup> Naval and air forces conducted independent planning in "collaboration with Group XXI."<sup>12</sup> The principle of "unity of command" gave way quickly to interservice jealousy. The fact that the operation was successfully planned and executed was the result not of good command organization but rather of individuals working well together.<sup>13</sup>

### **Navy**

The major portion of the assault troops would be transported by warships. German shipping was organized into the Warship Echelon, the Tanker Echelon, the Export Echelon, and the Sea Transport Echelon. The Warship Echelon would conduct the initial assault. The Tanker Echelon and Export Echelon were created to provide fuel and supplies for northern forces in Narvik and Trondheim. The sea transport echelon would off load follow-on troops and supplies.<sup>14</sup> Five groups of the Warship Echelon would participate directly in the invasion of Norway: Group One to Narvik; Group Two to Trondheim; Group Three to Bergen; Group Four to Kristiansand and Group Five to Oslo.<sup>15</sup>

Operational protection would be provided by twenty-eight submarines supporting the attack.<sup>16</sup> A deception plan was to be carried out by the battleships *Gneisenau* and *Scharnhorst*. They were to escort Warship Groups One and Two north toward Trondheim, then veer northwest into the North Atlantic to divert the British navy.

The entire naval plan required detailed synchronization of the attack force, logistics force, follow-on forces, and protection at sea for all shipping. The requirement for surprise dictated precise sailing plans, timed to meet the operational schedule without arousing Allied suspicion.



### ***Ground Forces***

Simultaneous seaborne landings were to be made at Narvik, Trondheim, Bergen, Kristiansand, and Oslo. Stavanger would be taken by airborne assault. The total seaborne landing force of 8,850 men was limited by the capacity of German warships. The main force of 16,500 men would debark in Oslo in three transport echelons during the first week and another 40,000 would arrive in shuttle transport after that. An additional 8,000 would move in by air within three days of W day. Weseruebung Sued, the coordinated occupation of Denmark conducted by XXXI Corps, involved two infantry divisions and one motorized rifle brigade, all heavily reinforced with tanks, artillery, motorized machine guns, and trucks. XXXI Corps was under the operational control of Group XXI. Their primary objective of Aalborg was to be taken by W plus two.<sup>17</sup>

### ***Air Forces***

More than 1000 aircraft were assigned to support Weseruebung. On W day, the main bomber force would operate from German bases against the British Navy. One squadron would land at Stavanger on W day and operate against British forces from there. Remaining bombers would conduct demonstrations over Norway and Denmark. The dive bomber group would send two squadrons to Aalborg and one squadron to Stavanger on W day. Fighters would land at Aalborg and protect transports moving to Norway. Five hundred transport aircraft would be used to conduct airborne and parachute landings at Oslo, Stavanger, and Bergen.<sup>18</sup>

### ***Political Planning***

To preserve secrecy, the German foreign ministry was not part of Weseruebung planning. The political objective was to convince the leaders of Norway and Denmark that they should not resist German occupation. Government officials would be offered economic aid and retention of local authority but would lose control over foreign affairs. The people of Norway were to be influenced by extensive

propaganda measures such as leaflets and radio broadcasts. The Norwegian and Danish governments were not to be informed of German intentions until 0500 on 9 April.<sup>19</sup>

### ***The Result***

Despite a number of subtle indications, the British, Norwegians and the Danes failed to detect Germany's preparation for the invasion, nor did they act positively on the indications they did receive.<sup>20</sup> At 0530 on 9 April 1940, Nazi Germany, achieving nearly total surprise, struck with devastating efficiency in a preemptive invasion of Norway. The simultaneous attacks on Norway's population centers overwhelmed the Norwegians and paralyzed the Allies in indecision. In Narvik, warships successfully landed the assault troops although the ships of the Export Echelon failed to arrive.<sup>21</sup> Warship Group Two made a successful landing at Trondheim but, as in Narvik, the Export Echelon had not arrived.<sup>22</sup> The landing at Bergen succeeded with little resistance. In Stavanger, a dive bomber attack was followed by parachute landing of a company and later by two air landed infantry battalions.<sup>23</sup> Group Four initially encountered difficulty in entering Kristiansand from heavy fog, then from intense firing by coastal batteries. Air attacks neutralized the guns and by 1100 the ships entered Kristiansand.<sup>24</sup> The landing in Oslo did not go as smoothly. Group Five, led by the cruiser *Bluecher*, proceeded toward Oslo in heavy fog. As she approached Oscarsborg fort she was struck by fire from a 280-mm gun. At 0730, she sank with heavy loss of life.<sup>25</sup> Stiff resistance from the forts controlling the approaches to Oslo, prevented seaborne troops from landing until the morning of the 10<sup>th</sup>.<sup>26</sup> Fog and anti-aircraft fire also delayed the airborne landing. The parachute aircraft turned back however by 0840 transport aircraft began to land and by noon on the 9<sup>th</sup> the Germans controlled Oslo.<sup>27</sup>

Throughout W day the British main fleet came under such heavy German air attack that the British commander, Admiral Forbes, elected to let the southern area be covered by submarines, while he

concentrated north toward Trondheim.<sup>28</sup> German air superiority around southern Norway caused the British navy to rely almost exclusively on submarines. That decision greatly facilitated the German's sea lines of communications to southern Norway. Germany's air superiority also assured its troops of adequate air cover in subsequent ground operations. During the operation the German Air Force carried more than 29,000 men and 2,376 tons of supplies to Norway.<sup>29</sup>

Operation Weseruebung was a success. The Allies mounted a counter-attack at Narvik but, by early June, faced with the disasters of the western front and Dunkerque, they abandoned their efforts to retake Norway and quietly evacuated their forces. The cost to Germany in manpower was relatively small, with less than 6,000 men killed, wounded or missing. The most significant loss was the heavy cruiser *Bluecher*, two light cruisers, and ten destroyers. While the strategic wisdom of the German invasion is debatable, the operational lesson of Weseruebung was that a well coordinated, highly synchronized German operation using all branches of the German military was able to surmount its significant inferiority in naval power and occupy Norway and Denmark in the face of superior Allied sea power. The Germans had little in the way of doctrine to guide them in their planning, but they clearly understood the importance of synchronizing the efforts of joint forces.

### ***Operational Synchronization in Doctrine***

**Synchronization:** "The arrangement of military actions in time, space, and purpose to produce maximum relative combat power at a decisive place and time."<sup>30</sup>

Given the uncertain post-Cold War international environment, decreasing force structure, and increasing lethality on the battlefield, we rely more than ever on the synergistic effects of highly synchronized, joint operational battle plans. No single service will dominate the battlefield, and each will rely to a great extent on the contributions of all. Today we regard joint and combined warfare as the accepted model for employment of combat forces. As planners and executors, our approach to

joint force employment will depend greatly on our ability to effectively synchronize the efforts of the total force to achieve our military objective within the existing political framework.

Today, more than 50 years after Germany's invasion of Norway, we might ask whether current doctrine adequately addresses synchronization. We find that the concept of synchronization permeates joint operational doctrine. There are numerous references to synchronization in JP 3-0, FM 100-5 and most of the other joint publications included in the Joint Electronic Library. While references are generally broad, in analyzing synchronization at the operational level, we must avoid the tendency to limit our view to the tactical aspect of combined arms employment. We should broaden our scope to include the non-military aspects of synchronization. It is essential to understand that the JFC is the link between the strategic and tactical levels of war, and his perspective of synchronization will not be limited to strictly military operations, but must provide the connection between political, diplomatic, economic and social considerations and the application of military force to achieve national objectives. I refer to this as the vertical component of synchronization. The JFC's use of military forces at his disposal are the horizontal component of synchronization. (See figure 2.)

In his monograph, Operational Synchronization -- Maintaining The Decisive Advantage, Major Boatner asserts "...no effort is made to describe synchronization below the conceptual level"<sup>31</sup> and states that references to synchronization in JP 3-0 "...reinforce the central importance of synchronization but do little to illuminate the specific methods and issues associated with synchronization."<sup>32</sup> This criticism of lack of doctrine is misplaced. Synchronization is an integral part of the commander's operational design and is embedded at all levels of operational planning. The JFC's vision of the campaign is central to its success and synchronization of force application, at the operational level, is the essence of the campaign plan.

In subordinate layers below the JFC, synchronization begins to lend itself more to doctrinal treatment and there is an eventual crossover into the domain of tactics. Here, synchronization is treated in detail with respect to combined arms applications and fire control measures designed to prevent force-on-force encounters. These tactical considerations lend themselves well to checklist or matrix planning which ensure that weapons employment is effective against the enemy. Service doctrine goes to great length to describe coordination of fires and maneuver to achieve tactical effectiveness.

At the operational level matrices and checklists are less important. Synchronization becomes much more the domain of the artist than the technician and is primarily the product of the imaginative and creative thought process of the JFC and his staff. It is, in essence, the commander's vision. The German plan to invade Norway did not spring from a synchronization matrix, nor did the concept of operations for Desert Storm. Rigid doctrinal treatment of synchronization at the operational commander's level would reduce operational art to a paint-by-numbers picture, deducible by the least sophisticated opponent. It is up to the operational artist to oversee development of a plan that best realizes the full potential of his forces. Because synchronization is an integral part of operational art and design, increased rigidity in doctrinal treatment will encourage predictable and unimaginative results, both of which are the antithesis of joint maneuver warfare at the operational level.

Our examination of synchronization in doctrine will be limited to JP 3-0 and FM 100-5. While not a joint publication, FM 100-5 is widely read throughout the services and the joint community and forms the doctrinal basis for land warfare. Though FM 100-5 is focused on Army land warfare doctrine, it has much to say about synchronization that is applicable to the JFC.

### ***Discussion: JP 3-0***

Joint Pub 3-0 forms "the core of joint warfighting doctrine."<sup>33</sup> It contains several valuable references to synchronization which form the basis for our recognition of its importance. In chapter two, Fundamentals of Joint Operations, it states:

"Joint operations doctrine...is a doctrine that recognizes the fundamental and beneficial effects of teamwork, unity of effort, and the *synchronization* of military operations in time, space and purpose."<sup>34</sup>

This statement recognizes that synchronization is among the basic fundamentals of joint force employment. This assertion forms the bedrock for understanding the interdependence of services and warfighting specialty areas to produce synergistic combat power to achieve desired results.

"Joint operational art...focuses on the fundamental methods and issues associated with the *synchronization* of air, land, sea, space, and special operations forces."<sup>35</sup>

This directly links synchronization to operational art. It emphasizes the difference between the tactical and operational levels of war and associates the operational level with art as opposed to the tactical level, which might more appropriately be associated with science. Synchronization at the operational level becomes the canvas on which the operational artist paints his campaign.

"Campaigns are joint... A wartime campaign is the *synchronization* of air, land, sea, space, and special operations -- as well as interagency and multinational operations -- in harmony with diplomatic, economic, and informational efforts to attain national and multinational objectives."<sup>36</sup>

This statement recognizes the vertical as well as horizontal nature of synchronization. It does not restrict synchronization to the strictly military arena, but links joint operations with political, diplomatic, economic and social sources of national power. This linkage with non-military aspects of strategy may take the form of limitations imposed on the JFC or may offer significant enhancements to the military effort.

"*Synchronization* of logistics with combat operations can forestall culmination and help commanders control the tempo of their operations."<sup>37</sup>

This statement confirms that combat operations are inextricably linked to logistics and reinforces Clausewitz's concept of culmination.

### ***Discussion: FM 100-5***

The United States Army's FM 100-5, Operations, is its most recent and comprehensive collection of operational doctrine. It represents a mature analysis of operations in light of the Operation Desert Storm experience and reflects Army thought on warfare in the post-Cold War world. Fully integrated into the nation's concept of joint warfare, it treats the concept of synchronization in great detail.

"The Army's success on and off the battlefield depends on its ability to operate in accordance with five basic tenets: initiative, agility, depth, *synchronization*, and versatility."<sup>38</sup>

By making synchronization one of its five basic tenets, the Army has given significant importance to this concept. The extensive treatment of synchronization in FM 100-5 offers substantial insight to the joint force planner.

"...integrating the activities of intelligence, logistics, and fire support with maneuver leads to *synchronized* operations."<sup>39</sup>

This links the full spectrum of combat tasks through synchronization.

"*Synchronization* includes, but is not limited to, the massed effects of combat power at the point of decision."<sup>40</sup>

This reference highlights the connection between the JFC to the national strategic leadership. It is a reinforcement of the vertical component of synchronization.

"Though separated in time and space...activities must be well *synchronized* if their combined effects are to be felt at the decisive time and place. *Synchronization* seeks to gain overwhelming combat power."<sup>41</sup>

This statement focuses on the ultimate aim of synchronization -- to bring the maximum feasible combat power to bear on the enemy at the decisive time and place, even though that combat power may originate from widely dispersed locations and be applied at widely separated locations.

“An operational commander has *synchronized* two major operations if one diverts the attention of the bulk of enemy forces, thus uncovering a key objective for decisive attack by the other.”<sup>42</sup>

This suggests that synchronization may very often be the coordination of widely separated forces to achieve a common objective through an effective deception plan.

“By itself...coordination is no guarantee of *synchronization* unless commanders first visualize the consequences to be produced and how they sequence activities to produce them. Staffs must understand their commander's intent since they make a large part of the synchronization plan happen. *Synchronization* thus takes place first in the minds of commanders and then in the actual planning and coordination of movements, fires, and supporting activities.”<sup>43</sup>

This passage reinforces the importance of operational “art.” The commander transmits his “vision” in the form of commander's intent. This forms the basis for the activities of his staff, including subordinate and supporting commands, and reinforces the principle of “unity of command.”

“Early decisions that put the operation in motion need to consider the array of branches and sequels that may ensue.”<sup>44</sup>

One of the most important considerations in planning synchronization is to ensure that the plan is robust. While bringing to bear a wide variety of combat power against the enemy, the plan should not be susceptible to failure due to the disruption of some portion of it. Synchronization should be the strength of a plan and not a vulnerability easily exploited by the enemy. A synchronized plan must contain branches and sequels which give it flexibility to be adjusted when necessary and still accomplish the mission. The JFC will always expect that one of the main objectives of the enemy will be to exploit vulnerabilities and disrupt synchronization.

### ***The Horizontal Quest for Synergy*** (See Figure 2. Horizontal and Vertical Components of Synchronization)

The essence of synchronization is to bring the proper forces to bear at the appropriate time and place to be decisive. At the operational level, this means determining the enemy center of gravity and attacking it, either directly or indirectly with a force capable of achieving victory. Today the U.S. is arguably the strongest nation on earth. One might be tempted to infer from that statement that we are



capable of imposing our will wherever and whenever we choose. Yet downsizing of the force, and the "American way of war," dictate that we must be prepared not only to fight and win with a reduced force structure, but to win quickly, decisively and with the fewest casualties -- on both sides. In today's smaller force structure, no single service can claim the universal ability to be decisive, across the spectrum of war and geographical regions.

The JFC is responsible for preparing the campaign plan. In his mission analysis he reviews his tasking and defines the mission. Based on the analysis of his mission, he determines objectives and integrates, through the planning process and effective command and control, maneuver, fires, logistics, intelligence, and deception to achieve his objective. Embedded throughout his planning is synchronization of the application of the forces under his command to achieve synergy. He will direct subordinate and supporting forces in a unified fashion and with singularity of purpose toward accomplishment of his mission.

### ***The Vertical Link to Strategy***

The operational commander is the link between the nation's strategic aims and the tactical forces employed in war. The war-fighting commander in chief (CinC), as a direct subordinate of the National Command Authority (NCA), is only one layer away from the highest level of national decision making. As such, his activities on the battlefield must be synchronized with the political, diplomatic, economic and social aspects of national power.

These considerations might at times represent limitations to the commander's freedom of action. During the Vietnam War, restrictions on combat operations in Laos and Cambodia, and the conduct of the air war in North Vietnam severely limited the operational commander. Under other circumstances these aspects of national power might be viewed as enhancements to the JFC's efforts. The effective

international coalition and United Nations Security Council resolutions established during the Gulf War provided the commander with additional combat power and legitimized its application. The JFC needs to understand and appreciate the national strategic objectives so that he can synchronize his efforts at the operational level to take advantage of the political, diplomatic, economic and social aspects of national power to achieve the nation's strategic objectives.

### ***Operation Desert Storm: Modern Application of Joint Operational Synchronization***

Fifty years after the German invasion of Norway, General Norman Schwarzkopf, Commander in Chief, United States Central Command (CENTCOM), was faced with the mission first of defending Saudi Arabia against attack by Iraq, and then evicting Iraqi forces from Kuwait. By January 1991, General Schwarzkopf had at his disposal a force consisting of more than 500,000 U.S. and coalition personnel which formed a powerful combination of land, sea, and air power. General Schwarzkopf faced the fourth largest military in the world, one with recent combat experience in an eight-year war with Iran, and a force that had six months to prepare for the defense of Kuwait. The challenge of evicting Iraq from Kuwait, while minimizing U.S. and coalition casualties, was daunting. Synchronization, both horizontal and vertical, would be a major challenge, yet also could be the difference between success and failure.

CENTCOM's operational design of Desert Storm was a plan involving air, land, sea and space forces, each playing vital and mutually supporting roles. The plan called for intense air attacks designed to reduce Iraqi C2, gain air superiority, attrite Iraqi ground forces and shape the battlefield. This would be followed by decisive action on the ground that would evict Iraqi forces from Kuwait and destroy the prize of the Iraqi armed forces, the Republican Guard. Land and carrier based aircraft quickly achieved air superiority, then shaped and isolated the battlefield. Amphibious forces conducted a feint

which formed the basis of a deception plan that occupied a substantial portion of the Iraqi forces in Kuwait.<sup>45</sup> Other naval forces continued to isolate Iraq through maritime interdiction.

The vertical component of synchronization manifested itself when CENTCOM considered prolonging the air war to further attrite Iraqi forces prior to the coalition ground assault. Secretary of Defense Cheney and Joint Chiefs Chairman General Powell concluded that the ground war could not be delayed because it would jeopardize the coalition that was essential to success of the campaign.<sup>46</sup> General Schwarzkopf had to synchronize his operational design to accommodate the political realities of the moment.

During the buildup phase of the campaign, commanders and planners considered a number of courses of action for the ground war. The one that was ultimately adopted involved a synchronized ground attack by Marine forces driving into Kuwait from the south and west, and two Army Corps sweeping into Iraq west of Kuwait. The plan was built on the premise that Iraqi forces would mount a strong defense of Kuwait. Based on this assumption, the plan was synchronized so that on G day (the beginning of the ground war), Marines would commence with an attack into Kuwait. Army forces would delay 24 hours, allowing Iraqi forces to respond to the Marine attack, and then sweep into Iraq, destroying Republican Guard forces and blocking their escape.

Yet there was a fundamental flaw in the CENTCOM plan. It did not consider what would happen if Iraqi forces did not stand and fight in the face of the Marine attack.<sup>47</sup> Based on the experience at Khafji on 29 January, Marine planners felt that Iraq would not mount a particularly determined defense of Kuwait. The Marines planned a rapid thrust into Kuwait and expected to be in Kuwait City in three days.<sup>48</sup> Army and CENTCOM planners did not fully appreciate the significance of the Khafji experience and continued to develop a plan based on a strong defense of Kuwait.<sup>49</sup> This drove them to

incorporate a 24 hour delay from the beginning of the Marine attack until the commencement of the Army attack into Iraq.

At 0400 on 24 February 1991, as Marines moved into Kuwait, Iraqi resistance was light and a great number of their forces began to either fall back or surrender. It quickly became apparent to General Schwarzkopf that the 24 hour delay in beginning the Army sweep, rather than allowing enemy forces into Kuwait to be drawn into the battle, would only permit them to escape from Kuwait into Iraq.<sup>50</sup> What had been a highly synchronized plan was losing a great deal of effectiveness in the opening hours of the ground war. General Schwarzkopf ordered his two Army Corps commanders to begin their attacks at 1500 on G day rather than wait until G plus one as originally planned.<sup>51</sup> This was a difficult order to execute because neither the VII Corps nor the XVIII Corps were fully prepared to execute on such short notice. There were logistics considerations and most importantly, the attack would now be at night rather than at first light the next morning.

This sudden change in the timing of the attack was the beginning of what was to be a tempestuous four day action for Lieutenant General Franks, Commander of the VII Corps. After a limited thrust into Iraq, LGen Franks elected to halt the attack until daylight. This did not please General Schwarzkopf who believed the VII Corps' delay was allowing Iraqi forces to escape. LGen Franks plan for his Corps involved a detailed and highly synchronized plan to penetrate into Iraq, then concentrate his force for an attack on Republican Guard forces. In his attempt to arrange his forces for combat at the tactical level LGen Franks caused what General Schwarzkopf perceived as an operational delay which allowed the enemy time to react.<sup>52</sup> Throughout the four day action, General Schwarzkopf continually chided LGen Franks to move faster and not allow the Iraqis time to respond in what was shaping up to be a war that would end not when the military objective had been achieved

on the battlefield, but when political considerations dictated. At the operational level, synchronization suffered because CENTCOM planners had not considered the effect of a rapid Marine advance through Kuwait. Had their plan at least considered that possibility, it might have also prepared VII and XVIII Corps to move quickly in response to the rapidly disintegrating Iraqi defense.

## **Conclusion**

“...the product of effective *synchronization* is maximum use of every resource to make the greatest contribution to success... *Synchronization* implies judgment in choosing among simultaneous and sequential activities. Commanders make this distinction clear to their staffs and subordinate commanders when effects of one activity are a precondition for subsequent action. To achieve this requires the anticipation that comes with thinking in depth, mastery of time-space-purpose relationships, and a complete understanding of the ways in which friendly and enemy capabilities interact. Most of all, *synchronization* requires a clear statement of the commander's intent.”<sup>53</sup>

Toady, fifty-five years after the German invasion of Norway and five years after Desert Storm, we are faced with great challenges in a period of unstable political activity and operational forces constrained by a diminishing budget. The unstable political environment will greatly impact the vertical component of synchronization and a downsized military establishment requires that the JFC take full advantage of the synergistic effect of the horizontal component of synchronization. Doctrine today places adequate emphasis on the importance of synchronization at the operational level, yet it is imperative that joint commanders and their staffs have an acute appreciation for the positive effects to be gained from robust operational synchronization as well as the negative impact of inadequate planning of synchronization of joint and combined forces. Operational synchronization is a key to effective joint force employment and must remain deeply embedded in every aspect of operational planning and execution.

## End Notes

---

<sup>1</sup> United States Army War College, Department of Military Strategy, Planning and Operations. The German Invasion of Norway: A Case Study Guide (Carlisle Barracks, Pennsylvania: 1994), 16.

<sup>2</sup> Francois Kersaudy, Norway 1940 (London: Collins, 1990), 24.

<sup>3</sup> The German Invasion of Norway: A Case Study Guide, 19.

<sup>4</sup> Ibid., 31.

<sup>5</sup> Ibid., 32.

<sup>6</sup> Ibid.

<sup>7</sup> Ibid., 35.

<sup>8</sup> Ibid., 23.

<sup>9</sup> Ibid., 35.

<sup>10</sup> Ibid., 36.

<sup>11</sup> Ibid.

<sup>12</sup> Ibid., 35.

<sup>13</sup> Ibid., 37.

<sup>14</sup> Ibid., 33.

<sup>15</sup> Ibid.

<sup>16</sup> Ibid., 35.

<sup>17</sup> Ibid., 40.

<sup>18</sup> Ibid., 43.

<sup>19</sup> Ibid.

<sup>20</sup> Ibid., 46.

<sup>21</sup> Ibid., 51.

<sup>22</sup> Ibid.

<sup>23</sup> Ibid., 54.

<sup>24</sup> Ibid., 56.

<sup>25</sup> Ibid.

<sup>26</sup> Ibid., 57.

<sup>27</sup> Ibid.

<sup>28</sup> Ibid., 58.

<sup>29</sup> Ibid., 61.

<sup>30</sup> Joint Chiefs of Staff. Joint Pub 1-02, DoD Dictionary of Military and Associated Terms (Washington: 1994), 371.

<sup>31</sup> Michael Boatner, Operational Synchronization -- Maintaining The Decisive Advantage, (Fort Leavenworth, KS: School of Advance Military Studies, United States Army Command and General Staff College, 1994), 25.

<sup>32</sup> Ibid.

<sup>33</sup> Joint Chiefs of Staff. Joint Pub 3-0, Doctrine for Joint Operations (Washington: 1995), inside front cover.

<sup>34</sup> Ibid., II-1.

<sup>35</sup> Ibid., II-3.

<sup>36</sup> Ibid., III-5.

<sup>37</sup> Ibid., III-22.

- 
- <sup>38</sup> United States Army. Field Manual 100-5, Operations (Washington: 1993), 2-6.
- <sup>39</sup> Ibid., 2-8.
- <sup>40</sup> Ibid.
- <sup>41</sup> Ibid.
- <sup>42</sup> Ibid.
- <sup>43</sup> Ibid.
- <sup>44</sup> Ibid.
- <sup>45</sup> Michael R. Gordon, and Bernard E. Trainor. The General's War. Boston: Little Brown and Company, 1995, 294.
- <sup>46</sup> Ibid., 307.
- <sup>47</sup> Ibid., 290.
- <sup>48</sup> Ibid., 308.
- <sup>49</sup> Ibid.
- <sup>50</sup> Ibid., 362.
- <sup>51</sup> Ibid., 363.
- <sup>52</sup> Ibid., 381.
- <sup>53</sup> Field Manual 100-5, Operations, 2-9.

### Figure 1

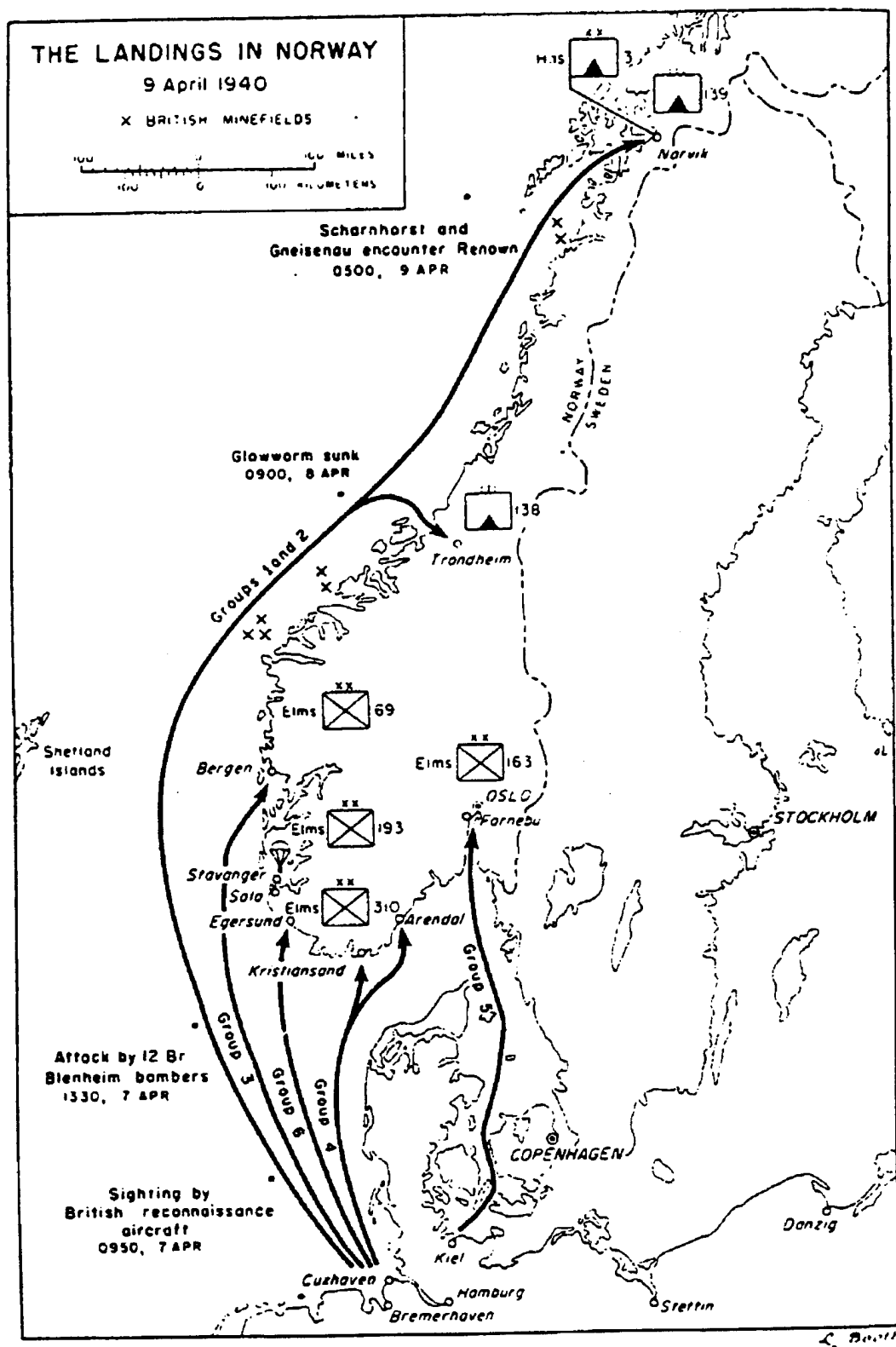
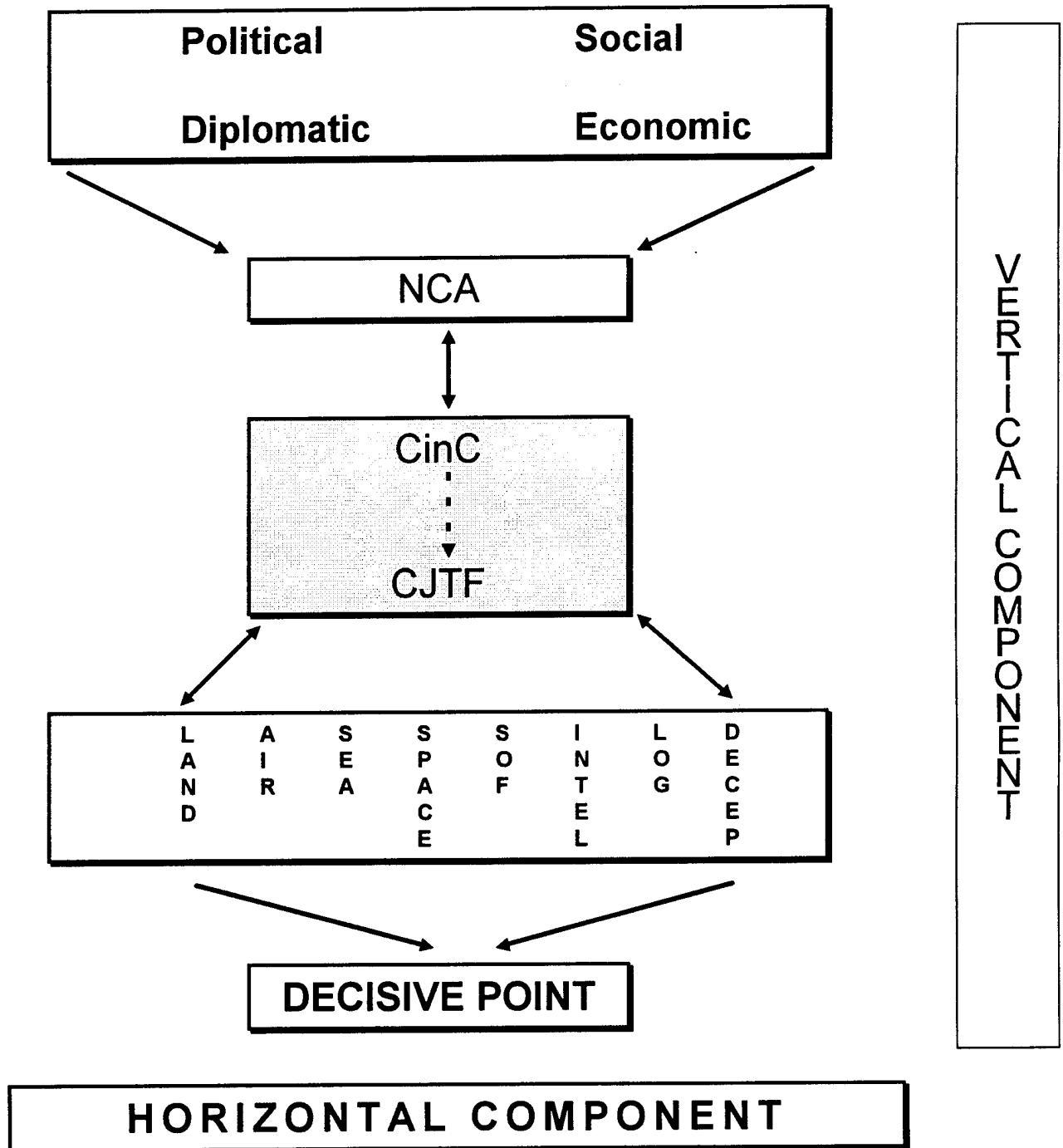




Figure 2

## ***HORIZONTAL AND VERTICAL COMPONENTS OF SYNCHRONIZATION***



## Bibliography

- Andenaes, Johs. Norway and the Second World War. Oslo: Johan Grundt Tantom Forlag, 1966.
- Boatner, Michael. Operational Synchronization -- Maintaining The Decisive Advantage, Fort Leavenworth, KS: School of Advance Military Studies, United States Army Command and General Staff College, 1994.
- Derry, T. K. The Campaign In Norway. London: Her Majesty's Stationery Office, 1952.
- Gordon, Michael R. and Bernard E. Trainor. The General's War. Boston: Little Brown and Company, 1995.
- Joint Chiefs of Staff. Joint Pub 1-02, DoD Dictionary of Military and Associated Terms. Washington: 1994.
- Joint Chiefs of Staff. Joint Pub 3-0, Doctrine for Joint Operations. Washington: 1995.
- Kersaudy, Francois. Norway 1940, London: Collins, 1990.
- Naval War College, JMO Department. Operational Design: The Fundamentals. Newport, RI: 1996.
- Naval War College, JMO Department. Operational Design: The Operational Scheme. Newport, RI: 1996.
- United States Army War College, Department of Military Strategy, Planning and Operations. The German Invasion of Norway: A Case Study Guide. Carlisle Barracks, Pennsylvania: 1994.
- United States Army. Field Manual 100-5, Operations. Washington: 1993.
- Ziemke, Earl F. "The German Decision to Invade Norway and Denmark" in Command Decisions, ed. Kent R. Greenfield, Washington: Center of Military History , United States Army, 1990.